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Is the Communication Pyramid a useful Model of Language Development?

Have you ever used a 'Communication Pyramid' in your practice? If you work in the U.K. then the chances are very high that you have used one in discussion with parents, carers and other professionals, or have seen it used in this way. Recent conversations on Twitter bear this out. But where do these frameworks come from, what do they depict, and are they evidence based? We are two Speech and Language Therapy educators and our students frequently see the use of the pyramid in practice when they are on placement. We have found that the pyramid is often interpreted as a model of normal speech and language development, which it is not. Whilst we acknowledge the popularity of the pyramid, and its evident usefulness for discussing the different skills underpinning communication, we think it is important to emphasise its limitations.

A quick internet search shows the scale of acceptance and use of the pyramid on SLT and school websites – for example, in a recent search the top 10 hits were NHS trust sites, UK and Australian private practice sites and UK school sites. There is a good deal of consistency in the blocks or stages included in each pyramid diagram whilst there is also a wide variety of design styles, perhaps indicating that people are drawing from the same idea but creating their own versions. To the best of our knowledge there is no single source for the communication pyramid in either the language development or the speech and language therapy literature. It is highlighted as being in common usage in the UK by the Communication Trust and appears in a number of their publications. However there is no evidence base, that we can find in searches of academic databases, to support it.

Typically the pyramid has a foundational block of ‘attention and listening skills’; layered on top is ‘play and Interaction’; then ‘receptive language’; then ‘expressive language’; and finally ‘speech sounds’. There are slight variations in the terminology used (‘understanding’, ‘use’, ‘pronunciation’) and some pyramid diagrams add extra blocks for pragmatics and literacy, but overall there is surprising homogeneity. Often the pyramid itself will be supplemented with text or arrows suggesting that one stage needs to be achieved before the next level can develop.

Our students tell us that the pyramid is used clinically in a variety of ways. Often, the layers in the pyramid are referred to as the ‘building blocks’ of communication, and there is some truth in this because good attentional skills, eye contact and interactional skills learnt through play would indeed provide a solid foundation for language development (Carpenter, Nagell, & Tomasello, 1998). The pyramid undoubtedly helps convey this to parents and other key agents of intervention, and we recognise that when it is used simply to highlight that there are various component parts of communication, this is a good use of the pyramid. Also, it is true that language comprehension starts to develop ahead of production and stays that way for the majority of key milestones in language development (Samuelson, 2006). However, there are also dangers to the way the pyramid depicts each skill. The design of the pyramid appears to suggest that each layer represents a stage of development that is completed before the next layer, which is clearly untrue. For example, the diagram could mislead people to think that the development of all receptive language skills must be completed before expressive language skills can start to emerge. And that there is no language development that occurs after clear speech is established. Our students

report that they have also seen the pyramid used ‘developmentally’ or that they have done so themselves, and examples of this misuse can be found online. This is where the danger lies.

As SLTs know, attention, listening and speech skills develop alongside each other, not just first and last as the pyramid suggests. Indeed it was the placement of the final ‘speech sounds’ block at the top of the pyramid that prompted the recent discussion on Twitter (September 2017), with an established speech-sound development researcher from the US expressing alarm at the implication that phonological skills come last. There are, of course, some evidenced based key milestones in language development. But these are not represented as such in the pyramid. For example, cooing is expected at around 2-3 months, babbling at 4-6m, first expressive words appear in isolation at around 12-15m and in combination at 18-24m, and at the same time the earliest speech sounds are emerging (Owens, 2008) . Speech sounds then continue to expand and develop alongside continued language, cognitive development and pragmatic development, not as the ‘final piece’.

The communication pyramid is not intended to be a model of development but instead to be used to help explain how speech and language are supported by other skills, and to make the complex processing accessible to parents, carers and health and educational professionals not trained in language development. A ‘communication tree’, rather than the pyramid, is also an increasingly popular way to emphasise this complex processing (using the different parts of the tree or different branches to represent the different skills). Although some therapists prefer the tree, because the parts grow simultaneously to

represent the skills developing in parallel, others interpret the tree differently. For example, we have seen the following, less appropriate, commentary used quite widely "Each one of the stages needs to be secure before the child is able to move up the tree." Clearly both diagrams are perceived to be useful in highlighting the multifaceted nature of communication and in up-skilling others, a key role for SLTs (RCSLT policy statement 2010). The pyramid diagram has enduring popularity: a picture of it was the most re-tweeted tweet from one particular NHS SLT service in an individual week in September this year and we know that tweets with pictures travel twice as far. In our experience as clinical educators, these models (pyramid and tree) are very appealing to student SLTs too because of their clarity, but they are frequently misunderstood and used as a step by step approach to development and often intervention. This misunderstanding occurs despite our teaching students about the key milestones in typical speech and language development. This leads us to ask whether this misunderstanding also occurs when the pyramid or tree is used in discussion with parents and carers, even when it is not presented as a model of development. Is it time for a new model?

There is clearly a need to highlight the multi-faceted nature of communication, and a need for a diagrammatic way to depict the network of skills underpinning communication. In our opinion, it would be beneficial if this model did not also appear to represent the stages in speech and language development. What do you think? There are a range of potential alternative options, but here are two of our favourites:

1) The Spider Diagram - useful for visually representing a 'spiky profile

Target Profile Diagram used by Milton Keynes NHS Primary Care Trust

(High Shore School website).

2) the Rope Diagram of Skilled Reading– useful for representing interaction between skills

Skilled Reading diagram from Scarborough 2001

References and Further Resources

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